EXHIBIT A

Technical Workshop on Estuarine Habitat in the Bay Delta Estuary

Managing the Low Salinity Zone to Improve Estuarine Habitat and Protect Fish Populations

27 March 2012, 9:00 am – 4:30 pm
SACOG Board Room, Suite 300 (3rd floor)
1415 L Street, Sacramento, CA, 95814

Purposes of the Workshop

❖ Improve our collective understanding about what tools we have for protecting estuarine habitat and pelagic fishes in the Bay Delta Estuary.

❖ Characterize the response of selected biological indicators and ecological processes to changing locations of the low salinity zone (LSZ).

❖ Generate scientific information that EPA can translate into findings and recommendations to support the State's Comprehensive Review of the 2006 Water Quality Control Plan for the Bay Delta Estuary.

Workgroup Questions[1]

1. What are the key points of scientific agreement, disagreement, and uncertainty surrounding estuarine habitat and pelagic fishes in the Bay Delta Estuary? How could scientists and agencies "manage the uncertainty" while advancing the protection of water quality and estuarine habitat?

2. What is needed to update and improve the State's current approach of managing estuarine habitat with a springtime salinity standard (FEB-JUN)? What key scientific findings and emerging modeling techniques should be applied?

3. What are the drivers in the quality and quantity of estuarine habitat during each season of the year? What biological indicators respond to changing locations of the LSZ between the Carquinez Strait and the western Delta? At the workshop, you'll be asked to fill-in the attached chart of Biological Indicators and Metrics. A sample is attached to stimulate your thinking, and you're encouraged to come to the workshop with ideas for completing this chart.

4. What are the historical and present-day relationships between the LSZ and the landscape of the Bay Delta? How can models be used to forecast the response of selected biological indicators to changing precipitation patterns, rising sea levels, and restoration scenarios?

[1] Tim Vendlinski drafted these questions with assistance from Brock Bernstein, Erin Foresman, Robin Grossinger, Bruce Herbold, Michael MacWilliams, Stephen Monismith, and Karen Schwinn. Comments are welcome!

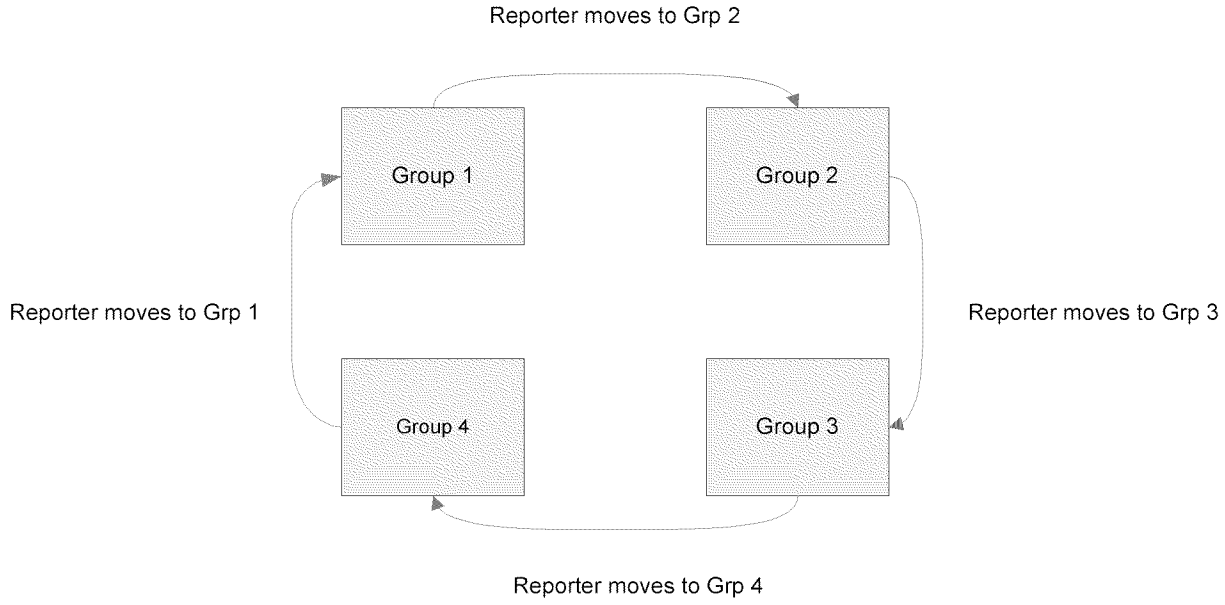
Agenda

9:00 – 9:10	Welcome and introductions	Karen Schwinn (EPA)
9:10 – 9:20	Agenda overview	Brock Bernstein
9:20 –9:45	Historical Perspectives on the Estuarine Gradient	Robin Grossinger (ASC - SFEI)
9:45 –10:10	Modeling Estuarine Processes using SUNTANS	Stephen Monismith Stanford University
10:10 –10:35	Modeling Estuarine Processes using UnTRIM	Michael MacWilliams Delta Modeling Assoc.
10:35–10:40	Reflections on presentations and transition to workgroups	Brock Bernstein
10:40 – 10:50	Workgroup instructions and assignments	Brock Bernstein
10:50 – 12:15	First workgroup session – Prepare first draft of discussion summaries	
12:15 – 1:30	**Working lunch** Second workgroup session – Review and revise discussion summaries	
1:30 – 2:30	Third workgroup session – Review and revise discussion summaries	
2:30 – 2:45	**Break**	
2:45 – 4:15	Group discussion – discussion summaries	Brock Bernstein
4:15 – 4:30	Wrap up and adjourn	Brock Bernstein

Process for Technical Teams

The following workshop process is intended to increase the amount of direct interaction among participants, accelerate the refinement of ideas and products through multiple rounds of review and revision, and ensure that participants have the opportunity to address all topics.

- Break into four pre-assigned technical teams of equal size.
- Designate a team leader and reporter for each team (already done).
- Assign each team (and each reporter) one of the four workshop questions.
- The reporters are paired with the questions and will rotate among the four teams (see figure below). This builds momentum toward enriching the answer to each question, and provides continuity as each question is cycled from team to team.
- Team leaders are charged with keeping their team focused on the task at hand, bringing the best work out of each individual, synthesizing ideas to make conceptual breakthroughs, and ensuring ideas are accurately captured and conveyed to the reporter.
- **First session:** Each team responds to the assigned question.
- Reporters and questions rotate to the next team.
- **Second session:** Reporters brief their new team on the progress made by the previous team toward answering the assigned question. Each team critiques and revises the previous team's product.
- Reporters and questions rotate again.
- **Third session:** Repeat the briefing, critique, and revision of the previous group's product.
- **Group Discussion:** The workshop facilitator will reconvene all the workshop participants. Reporters and team leaders will: (i) describe how the answer(s) to each question evolved as they moved from team to team; and (ii) summarize the key points catalyzed during the collaborative process.



BIOLOGI AL IN I ATOR METRI

FISH, SHELLFISH, AN OTHER ORGANISMS	

FOO PRO U TION	

PRO U TIVITY OF THE PHOTI ZONE	

E OSYSTEM PRO ESSES	

ONTAMINANTS	

SITE SPE IFI STRESSORS	

SAMPLE BIOLOGI AL IN I ATOR *SAMPLE* METRI

RESPONSE OF FISH STU IE AT "X2" WORKSHOPS	
Neomysis mer edis	Metric TB
Cr ngon fr n is orum	Metric TB
Molluscs	Metric TB
Striped bass	Metric TB
Starry flounder	Metric TB
Longfin smelt	Metric TB

FOO PRO U TION	
Area of Low Salinity Zone	Hectares
Volume of Low Salinity Zone	ubic Meters
Time LSZ Spends in Proximity to Productive Habitat	Minutes

PRO U TIVITY OF THE PHOTI ZONE	
epth of Penetration by Sunlight through Water Surface	entimeters
Turbidity	Nephelometric Turbidity Unit (NTU)

E OSYSTEM PRO ESSES	
iversity of Aquatic Habitat at Four ross Sections	Numerical Index TB for Habitat Structure for Fish, e.g., # of feeding spots, # of hiding spots.
iversity of Flow Patterns at Four ross Sections	Metric TB
Interfaces of urrents with Accumulations of Food	Metric TB

ONTAMINANTS	
Ammonium	Inhibit diatoms/promote microcystis (µmol L^{-1})[2]
Selenium	Biological capture by overbite clams (µg L^{-1})[3]

SITE SPE IFI STRESSORS	
Time LSZ Spends in Proximity to Outfalls	Minutes
Time LSZ Spends in Proximity to Pumps	Minutes
Time LSZ Spends in Proximity to *Egeri* Beds	Minutes
Time LSZ Spends in Proximity to eep hannels	Minutes
Time LSZ Spends in Proximity to Power Plants	Minutes
Time LSZ Spends in Proximity to VP/SWP Effects	Minutes

[2] See Dugdale's model
[3] See models by Luoma & Presser (fate of Se) and by Jan Thompson (clam abundance)